

**RE: MS4 question****Lisa Kusnierz** to: Makus, Erik

05/07/2012 04:52 PM

I'm actually looking at the traction sand assessment right now - MDT applies 348 tons/mile/year to that section of highway. We took traction sand depth measurements at several distances from the road and it looks like the fill slope/buffer length is long enough that not much makes it to the stream.

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"Makus, Erik"[I think that passes some laugh tests at least. In...](#)

05/07/2012 04:43:59 PM

From: "Makus, Erik" <EMakus@mt.gov>
To: Lisa Kusnierz/MO/R8/USEPA/US@EPA
Date: 05/07/2012 04:43 PM
Subject: RE: MS4 question

[I think that passes some laugh tests at least. In Florida, the FDOT used an estimate of 0.2 tons/acre/year for sediment off of highways. \$0.2 \text{ tons/acre/year} * 61.96 \text{ acres} = 12.43 \text{ tons/year}\$ for Bear Creek. And it rains a LOT more in FL, so I'd agree that 6.8 tons is high but maybe in the ballpark. Do you know how much they sand the interstate in the winter in tons/mile?](#)

[If that is what you want to do, I think it is a good rough approximation for the permitted load.](#)

[Erik](#)

From: Lisa Kusnierz [mailto:Kusnierz.Lisa@epamail.epa.gov]
Sent: Monday, May 07, 2012 4:32 PM
To: Makus, Erik
Subject: RE: MS4 question

Yeah, his answer was really not so helpful. I do have to come up with a number because it's in the permit although meeting the allocation will be the same as for Bozeman and say to follow the permit. I think I came up with a crude approach though - let me know if it passes the laugh test. Using the 218 tons of sediment per year that Christian calculated for Bozeman Creek based on model results and the MS4 area within the Bozeman Creek watershed (2034.5 acres), I came up with a loading rate of 0.11 tons/acre. I then calculated the urbanized area within the Bear Creek watershed (61.96 acres) and multiplied that by the model-based loading rate for Bozeman Creek to get 6.8 tons/year for Bear Creek. Given that the load basically only comes off the highway, it's probably a high estimate but I'm not sure what else I could use. Have you seen any stormwater loading numbers from highways?

Thankfully there aren't too many MS4s in the state where this could come up but I think we should take a more thorough look at the receiving waters listed in the permit at the onset of the project next time. That way, even if it is not part of the modeled area, we can at least come up with an approach up front that can be vetted with stakeholders.

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▼ "Makus, Erik" ---05/07/2012 02:52:57 PM---Wow, he did a good job of not really answering any of your questions! Hmm...if it is the Bear Creek

From: "Makus, Erik" <EMakus@mt.gov>
To: Lisa Kusnierz/MO/R8/USEPA/US@EPA
Date: 05/07/2012 02:52 PM
Subject: RE: MS4 question

Wow, he did a good job of not really answering any of your questions!

Hmm...if it is the Bear Creek that is about four miles east of Bozeman, it is outside of both the city model and the Greater Bozeman Area model, so I don't really have any ideas short of attempting to model what portion of I-90 drains to it. That would be some extra effort and outside of the SWMM model (a completely new endeavor). I can think about it a bit though.

Do you have to write something for it because it's in the permit? Or can you just blow it off since it's not currently part of the city stormwater network and therefore not really a part of the City of Bozeman MS4...

This is only one stream, but what if the next city stormwater TMDL we have to do has listed 10 streams on it that aren't actually a part of the system? Could get out of hand...

Erik

From: Lisa Kusnierz [<mailto:Kusnierz.Lisa@epamail.epa.gov>]
Sent: Monday, May 07, 2012 2:00 PM
To: Makus, Erik
Subject: Fw: MS4 question

Hey,

I emailed Brian Heckenberger about Bear Creek and got a very lengthy response (below). Basically, I think it was included because MDT is a co-permittee and part of I-90 drains to the creek. Did you say you have some thoughts on how we can crudely come up with a load?

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----- Forwarded by Lisa Kusnierz/MO/R8/USEPA/US on 05/07/2012 01:58 PM -----

From: "Heckenberger, Brian" <bheckenberger@mt.gov>
To: Lisa Kusnierz/MO/R8/USEPA/US@EPA
Cc: "Skubinna, Paul" <PSkubinna@mt.gov>, "Chambers, Jenny" <JChambers@mt.gov>, "Yashan, Dean" <DYashan@mt.gov>
Date: 05/07/2012 01:44 PM
Subject: RE: MS4 question

Lisa,

The Small MS4 General Permit reapplication form used back in 2009 for the 2010-2014 General Permit cycle asked for information about receiving surface waters. For a few permittees there was a bit of confusion as the form line item states "List the names of all named or perennial receiving surface waters, as indicated on a USGS topographic map, within the permitted area." However, the instruction for this form line item states "Identify all of the different named or perennial (include both) surface waters receiving storm water runoff from your particular co-permittee Small MS4 by using the USGS topographic map." The latter is the case for purposes of our DEQ Small MS4 permitting, as we are regulating discharges of storm water into the receiving surface waters. In some situations the named or perennial receiving surface water (as shown on a USGS topographic map) may be physically outside the regulated MS4 permitted geographic area, which in the case of Bozeman, is based on the current incorporated city limits. Consequently, if Bear Creek was listed by the City or another co-permittee (MDT or MSU) on the reapplication form as receiving storm water runoff from the pertinent MS4, then it is a valid receiving surface water for the MS4.

Also, please disregard the use of the term "urban cluster", and this term has indeed created some confusion for certain MS4 permittees over the years. The EPA and US Bureau of Census maps (based on the decennial census) do typically show "urban clusters" as well as "urbanized areas." However, based on pertinent federal and state rules related to Small MS4s, the bottom line is that the MS4 regulated areas in Montana are either based on the "urbanized area" from the latest decennial census (applies to MS4s in Billings, Great Falls, and Missoula), or on the current incorporated city limits (applies to Bozeman, Butte, Helena, and Kalispell). An "urbanized area", a term developed by the US Bureau of Census, has a population of at least 50,000 and a population density of at least 1,000 people per square mile.

Thanks.

Brian Heckenberger
Water Protection Bureau
(406) 444-5310

From: Lisa Kusnierz [<mailto:Kusnierz.Lisa@epamail.epa.gov>]
Sent: Monday, May 07, 2012 12:17 PM
To: Heckenberger, Brian
Subject: MS4 question

Hi Brian,

I'm working with Christian Schmidt on TMDLs for the Bozeman area. I'm working on sediment TMDLs and was looking last week at the receiving waters listed in the MS4 permit for Bozeman. I am a little confused about the waters on the list and wanted to double check with you. It is my understanding that based on the size of Bozeman, the MS4 only applies to waters within the city limits. However, there were some emails back and forth between you, Christine, and the city that used the term "urban cluster." It seems like as a result of that, Bear Creek (as well as some other waters) were added to the list although they are

not technically within the city. I am doing a sediment TMDL for Bear Creek but because it is outside of the city, it was not included in the stormwater model HDR did for the city or the model that Erik Makus set up and ran for me and Christian. If it's appropriately included in the permit, I need to give it a WLA as part of the Bear Creek TMDL. However, it doesn't necessarily seem to me like it should be listed in the permit. What are your thoughts?

Thanks,

Lisa

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